

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) An information processing apparatus, comprising characterized ~~by having~~:
 - a storage section storing a plurality of operating systems (OSs)[[.]]; a first processor that executes processes ~~which are based on said plurality of the~~ OSs[[.]]; and
 - a ~~process management means~~ manager that:
 - ~~schedules execution of partitions a partition defined as a process of each~~
 - ~~of said plurality of the~~ OSs along a time axis, and
 - ~~controls the timing of executes control for switching said plurality of~~
 - ~~between execution of the partitions in accordance with OSs on the basis of partition-~~
 - ~~switching control along the schedule scheduling, and characterized in that:~~
 - ~~said process management means is configured to:~~
 - ~~receives an interrupt request having a maximum allowable execution~~
 - ~~delay time,~~
 - ~~determine determines~~ whether or not a ~~pre-set partition switching timing~~
 - ~~exists~~ a switch between execution of the partitions is scheduled within a time period
 - ~~from occurrence of an interrupt request to which a the~~ maximum allowable delay time
 - ~~from receipt of the interrupt request is set to said maximum allowable delay time, and~~
 - in a case where the ~~pre-set partition switching timing is determined to exist~~
 - a switch between execution of the partitions is scheduled within said the maximum

allowable delay time from receipt of the interrupt request, ~~perform process control in~~
~~which an interrupt processing partition as an interrupt processing period corresponding~~
~~to an interrupt processing request is set so as to coincide with the pre-set partition~~
~~switching timing, and to cause~~ causes any of said the OSs to execute an the interrupt
process request at the time of the scheduled switching as a process subsequent to an
~~end of a scheduled partition in a partition schedule.~~

2. (Currently amended) The information processing apparatus according to
claim 1, ~~characterized in that said~~ wherein the process manager management means is
~~configured to execute a process of setting said interrupt processing~~ execution of the
partitions at the time of partition so as to coincide with an earliest scheduled switch
between execution of the partitions ~~partition-switching timing that occurs after~~ receiving
~~occurrence of the interrupt request.~~

3. (Currently amended) The information processing apparatus according to
claim 1, ~~characterized in that said~~ wherein the process manager management means is
further ~~configured to perform process control in which a partition being executed is~~
~~suspended~~ execution of the partitions to execute the interrupt process, in a case where
it is determined that no switch between execution of the partitions is scheduled ~~pre-set~~
~~partition switching timing occurs within said~~ the maximum allowable delay time from the
occurrence of the interrupt request.

4. (Currently amended) The information processing apparatus according to claim 1, ~~characterized in that~~ further comprising:

~~said a second~~ processor that executes the processes ~~which are based on said plurality of the OSs is configured to have a plurality of processors capable of operating in parallel with the first processor, and~~

~~said wherein the process management means~~ manager is further configured to:

~~schedule said partition~~ execution of the partitions along the time axis as to ~~each of said plurality of the first and second~~ processors to ~~execute partition switching control along a partition~~ such that the first and second processors switch between execution of the partitions in accordance with the schedule as to each of the processors, and

~~to execute a process of selecting one of a plurality of partition schedules~~ select a schedule corresponding to the first processor or to the second processor ~~said plurality of processors, and~~

~~setting said interrupt processing partition~~ execution of the partitions by the first processor or the second processor at the time of a scheduled switch between execution of the partitions contained ~~so as to coincide with a partition switching timing in the selected partition schedule.~~

5. (Currently amended) The information processing apparatus according to claim 4, ~~characterized in that~~ said wherein the process management means manager is configured to:

~~execute a process of selecting one of the plurality of partition schedules~~
select a schedule having the in which an earliest scheduled switch between execution
of the partitions after receiving partition switching timing occurs after the occurrence of
the interrupt request, and

~~setting said interrupt processing partition~~ execution of the partitions at the
time of so as to coincide with the earliest scheduled switch partition switching timing.

6. (Currently amended) The information processing apparatus according to
claim 1, ~~characterized in that said~~ wherein the process management means manager is
further configured to:

receive a second interrupt request having a minimum allowable execution delay
time, and

~~execute, in a case where the interrupt request is a request in which a minimum-~~
~~allowable delay time is set, a process of setting said interrupt processing partition so as-~~
~~to coincide with a pre-set partition switching timing that occurs after~~ execution of the
partitions at the time of a scheduled switch between execution of the partitions that
occurs after the minimum allowable delay time passes ~~from the occurrence~~ from receipt
of the second interrupt request has elapsed.

7. (Currently amended) The information processing apparatus according to
claim 1, ~~characterized in that said~~ wherein the process management means manager is
further configured to:

receive a second interrupt request that is executable during execution of a
specific partition,
determine, based on the schedule, when the specific partition will be executed,
and
~~perform, in a case where an interrupt process corresponding to an~~ when the
~~specific partition is being executed, interrupt processing request is executable in a~~
~~scheduled~~ execution of the specific partition to execute the second interrupt request
~~defined by a pre-set partition schedule, a process of executing the interrupt process in~~
~~said scheduled partition.~~

8. (Currently amended) The information processing apparatus according to
claim 1, further comprising ~~characterized in that:~~

~~said a second processor that executes the processes which are based on said-~~
~~plurality of the OSs is configured to have a plurality of processors capable of operating~~
~~in parallel~~ with the first processor, and

first and second partition switching modules for respectively controlling the
processors to switch between execution of the partitions,

~~said wherein the process management means~~ manager ~~is further~~ configured to
~~have a processor-corresponding partition switching module arranged to execute-~~
~~process control corresponding to each of the~~ first and second partition switching
modules to cause the processors to execute the partitions in accordance with the
schedule.

9. (Currently amended) The information processing apparatus according to claim 8, ~~characterized in that~~ further comprising:

a memory storing reservation queues of entries containing information about received ~~said partition-switching module is configured to have interrupt group-~~
~~information as~~ interrupt request requests, the queues being grouped based on sources
from which the interrupt requests originated ~~originating source information which can be~~
~~accommodated by a processor to which the partition-switching module is made to~~
~~correspond, and~~

wherein the first and second partition switching modules are configured to select,
from the reservation queues and based on the grouping, entries corresponding to
~~execute a process related to an interrupt request~~ requests ~~entry stored in a reservation-~~
~~queue corresponding to a group~~ originating from sources ~~which can be accommodated~~
~~by the processors, respectively a processor to be identified by said interrupt group-~~
~~information, from a plurality of interrupt group corresponding reservation queues, one-~~
~~being provided for each interrupt group.~~

10. (Currently amended) A ~~process control Method~~ method performed by a
computer ~~for controlling switching~~ between execution of partitions of processes which-
~~are based on a plurality of operating systems (OSs),~~ comprising ~~characterized by-~~
~~including:~~

~~a step of detecting occurrence of~~ receiving, by a processor associated with the
computer, an interrupt processing request,

~~an interrupt processing request mode determining step of determining, by the processor, whether or not the interrupt processing request is an interrupt processing request to which has a maximum allowable execution delay time is set,~~

~~receiving, by the processor, a schedule of execution of the partitions,~~

~~a timing determining step of determining, by the processor, whether or not a pre-set partition switching timing exists a switch between execution of the partitions is scheduled within said the maximum allowable delay time from occurrence from receipt of the interrupt processing request to which the maximum allowable delay time is set,~~

~~when it is determined that a switch between execution of the partitions is scheduled within the maximum allowable delay time, scheduling, by the processor, execution of the an interrupt processing partition setting step of setting an interrupt processing partition as an interrupt processing execution period corresponding to said interrupt processing request for the time of the scheduled switch so as to coincide with the pre-set partition switching timing in a case where the pre-set partition switching timing is determined to exist within said maximum allowable delay time, and~~

~~an interrupt processing execution step of causing, by the processor, any of said the OSs to execute an the interrupt process at the time of the scheduled switch as a process subsequent to an end of a partition scheduled in a partition schedule according to said interrupt processing partition setting information.~~

11. (Currently amended) The ~~process control~~ method according to claim 10, characterized in that said interrupt processing partition setting step is characterized by ~~executing a process of setting said interrupt processing partition so as to coincide with~~

wherein execution of the interrupt processing request is scheduled for an earliest scheduled switch between execution of the partitions ~~partition-switching timing that occurs after the occurrence~~ receipt of the interrupt request.

12. (Currently amended) The ~~process control~~ method according to claim 10, further comprising:

when it is determined that no switch between execution of the partitions is scheduled within the maximum allowable delay time from receipt of the interrupt processing request, suspending, by the processor, execution of the partitions to execute ~~the~~ characterized in that said interrupt processing partition setting step suspends a partition being executed and setting the interrupt processing partition at a suspended point, in a case where the interrupt processing request is determined to be an interrupt processing request to which the maximum allowable delay time is set in said interrupt processing request mode determining step and it is determined that no pre-set partition-switching timing occurs within said maximum allowable delay time in said timing determining step.

13. (Currently amended) The ~~process control~~ method according to claim 10, ~~characterized by further~~ comprising including:

a step of scheduling, by the processor, execution of the partitions ~~said partition~~ along a time axis as to each of the a plurality of processors that execute ~~the~~ processes ~~which are based on said plurality partitions of the OSs, to execute partition switching~~

~~control along a partition schedule as to each of~~ such that the processors switch between
execution of the partitions in accordance with the schedule, and

~~characterized in that: said interrupt processing partition setting step selects one~~
~~of a plurality of partition schedules~~ selecting, by the processor, a schedule
corresponding to said one of the plurality of processors, and

~~setting the interrupt processing partition so as to coincide with a partition~~
~~switching timing in~~ interrupting, by the processor, execution of the partitions by the
processor corresponding to the selected partition schedule to execute the interrupt
processing request.

14. (Currently amended) The ~~process control~~ method according to claim 13,
~~characterized in that said interrupt processing partition setting step executes a process~~
~~of~~ wherein interrupting execution includes selecting, by the processor, one of the
plurality of partition schedules in which a schedule having an earliest scheduled switch
between execution of the partitions ~~partition switching timing occurs after the~~
~~occurrence~~ receipt of the interrupt request, and ~~setting said interrupt processing~~
~~partition so as to coincide with~~ executing, by the processor, the interrupt processing
request at the time of the earliest scheduled switch ~~partition switching timing.~~

15. (Currently amended) The ~~process control~~ method according to claim 10,
~~characterized in that said~~ further comprising:

receiving, by the processor, a second processing interrupt request having a
minimum allowable execution delay time,

scheduling, by the processor, execution of the second interrupt processing partition request at the time of a scheduled switch between execution of the partitions
~~setting step executes, in a case where the interrupt processing request is a request in which a minimum allowable delay time is set, a process of setting said interrupt processing partition so as to coincide with a pre-set partition switching timing that occurs after the minimum allowable delay time has elapsed passes from the occurrence of the interrupt processing request.~~

16. (Currently amended) The process-control method according to claim 10, ~~characterized by further including~~ comprising:

receiving, by the processor, a second interrupt processing request that is executable during execution of a specific partition,

determining, by the processor and based on the schedule, when the specific partition will be executed, and

~~a step of executing, in a case where an interrupt process corresponding to an~~
when the specific partition is being executed, interrupting, by the processor, execution of the specific interrupt processing request is executable in a scheduled partition to
execute the second interrupt processing request defined by a pre-set partition schedule,
~~an interrupt process corresponding to the interrupt processing request in said scheduled partition.~~

17. (Currently amended) A computer-readable storage medium storing a computer program which, when executed by an information processing apparatus,

~~causes the information processing apparatus to perform a method that executes~~
~~process control for controlling switching of processes which are based on~~ between
execution of partitions of a plurality of operating systems (OSs), the method comprising
~~characterized by including:~~

~~a step of detecting occurrence of~~ receiving an interrupt processing request,
~~an interrupt processing request mode determining step of determining whether or~~
~~not the interrupt processing request is an interrupt processing request to which~~ has a
maximum allowable execution delay time ~~is set,~~

receiving a schedule of execution of the partitions,

~~a timing determining step of determining whether or not a pre-set partition-~~
~~switching timing exists~~ a switch between execution of the partitions is scheduled within
said the maximum allowable delay time from ~~occurrence~~ from receipt of the interrupt
processing request ~~to which the maximum allowable delay time is set,~~

when it is determined that a switch between execution of the partitions is
scheduled within the maximum allowable delay time from receipt of the interrupt
processing request, ~~an interrupt processing partition setting step of setting an interrupt~~
~~processing partition as an interrupt processing execution period corresponding to said~~
scheduling execution of the interrupt processing request for the time of the scheduled
switch ~~so as to coincide with the pre-set partition switching timing in a case where the~~
~~pre-set partition switching timing is determined to exist within said maximum allowable~~
~~delay time, and~~

~~an interrupt processing execution step of causing any of~~ said the OSs to execute
an the interrupt process at the time of the scheduled switch ~~as a process subsequent to~~

~~an end of a partition scheduled in a partition schedule according to said interrupt
processing partition setting information.~~